



## Water resources, climate change, and urban vulnerability: A case study of Phoenix, Arizona

---

**Author(s):** Bolin B, Seetharam M, Pompeii B  
**Year:** 2010  
**Journal:** Local Environment. 15 (3): 261-279

---

### Abstract:

This paper examines the security of water resources in Phoenix, AZ, under different scenarios of climate change, consumption patterns, and reductions of available surface water. Phoenix constitutes a key site for examining the projected effects of climate change on water resources in the US West. Water providers in Phoenix rely on a mix of water sources to deliver to their customers. These include groundwater, water from the Salt and Verde River watersheds, water from the Colorado River, an effluent (water reuse). Water providers in Phoenix vary in terms of their access and rights to different sources of water for municipal delivery. As a result, providers differ in terms of their exposure to cut-backs in available water. To assess vulnerability to climate change and reduced water resources available for delivery, we consider two primary questions. (1) Based on current water provider portfolio mixes, what is the current relative security of each provider's mix of water sources? (2) Using three different climate change scenarios for the Western USA and projected growth-related demand increases, what patterns of water supply vulnerabilities are likely to manifest for themselves in 2020? We map projected supply shortages and discuss implications for the vulnerability of people and places and mitigation strategies.

**Source:** Ask your librarian to help locate this item.

### Resource Description

#### Communication:

resource focus on research or methods on how to communicate or frame issues on climate change; surveys of attitudes, knowledge, beliefs about climate change

A focus of content

#### Communication Audience:

audience to whom the resource is directed

Policymaker

#### Exposure :

weather or climate related pathway by which climate change affects health

Food/Water Quality, Food/Water Security

#### Geographic Feature:

# Climate Change and Human Health Literature Portal



resource focuses on specific type of geography

Freshwater, Urban

## **Geographic Location:**

resource focuses on specific location

United States

## **Health Impact:**

specification of health effect or disease related to climate change exposure

Health Outcome Unspecified

## **Mitigation/Adaptation:**

mitigation or adaptation strategy is a focus of resource

Adaptation

## **Model/Methodology:**

type of model used or methodology development is a focus of resource

Exposure Change Prediction

## **Population of Concern:** A focus of content

## **Population of Concern:**

populations at particular risk or vulnerability to climate change impacts

Low Socioeconomic Status

## **Resource Type:**

format or standard characteristic of resource

Research Article

## **Timescale:**

time period studied

Medium-Term (10-50 years)

## **Vulnerability/Impact Assessment:**

resource focus on process of identifying, quantifying, and prioritizing vulnerabilities in a system

A focus of content